



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

**Transmittal Memorandum
Technical Review Workgroup**

An interoffice workgroup convened by Office of Solid Waste and Emergency Response

Date: December 22, 2004

Subject: Sampling Depth Interval at the Herculaneum Smelter Site

From: Jim Luey and Rob Elias
Co-Chairpersons of the Technical Review Workgroup

To: Bruce Morrison, RPM
EPA Region 7

This memorandum responds to your request (through Mike Beringer) for the TRW's comment on a sampling issue at the Herculaneum smelter site. The issue is whether data generated from samples collected in the upper 0.25 inches of the soil horizon are appropriate for use with the Integrated Exposure Uptake and Biokinetic (IEUBK) model. We agree with the position that is included in your request (attached):

EPA contends that surface soil collected from any portion of the upper 1 inch horizon, as long as sample aliquots for a single composite sample are taken from the same depth interval, is representative of a surface soil sample that will provide data that is suitable for evaluating human health risk using the IEUBK model.

This position is consistent with the LSW Handbook (EPA, 2003; OSWER #9285.7-50), the Technical Background to the 1996 Soil Screening Guidance (EPA, 1996c; EPA/540/R-96/018), and the TRW guidance for shooting ranges (EPA, 2003; OSWER #9285.7-37). In addition, RAGS Part A (EPA, 1989; EPA/540/1-89/002) recommends that the sampling depth should be applicable for the exposure pathways and contaminant transport routes of concern and should be chosen with these considerations in mind. Assessment of surface exposures will be

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more certain if samples are collected from the shallowest depth that can be practically obtained. These guidance documents recommend sampling from the 0 to 1-inch depth (or shallowest depth that can be reasonably obtained) interval because children are typically exposed to surficial soil. These recommendations were intended to avoid using data from samples collected at depth (e.g., 0 to 6-inch depth interval) that might dilute contamination that is present in the surficial soils, thereby underestimating the exposure (and therefore risk) to children. Samples collected at depths greater than 1-inch below the ground surface may be appropriate for future use scenarios. Sampling at depths less than 1-inch is consistent with the intention of these recommendations.

Please contact us should you have further questions.

Attachment "herc.trw.request.surface111.soil.doc"